

200



**BEGIN**

201 1. Initialize  $R = 0$ .

202 2. For  $I = 1:N$  (where  $b_{nN}$  is the final  $n$ -bit block in the data stream)

203 i. IF ( $R > 0$  and  $R_i > 0$ ) or ( $R < 0$  and  $R_i < 0$ ) complement the bits in  $b_{ni}$  and append a 1 to generate codeword  $c_i$ .

ELSE IF ( $R \leq 0$  and  $R_i > 0$ ) or ( $R > 0$  and  $R_i \leq 0$ ) append a 0 to  $b_{ni}$  to generate codeword  $c_i$ .

204 ii. Compute the RDS  $r_i$  of  $c_i$ .

205 iii. Update the sign of  $R$  by computing  $R + r_i$ .

206 3. Concatenate all  $c_i$ ,  $i = 1, 2, \dots, N$  to form the encoded sequence  $c$  for the bit string  $b$ .

**END**

FIG. 2

300



**BEGIN**

301 For  $I = 1:N$ ,

302 IF the  $(n+1)^{st}$ -bit of  $c_i = 0$ ,  
Copy verbatim the first  $n$  bits of  $c_i$  to form  $b_{ni}$ .

303 ELSE  
Complement the first  $n$  bits of  $c_i$  to form  $b_{ni}$ .

**END**

**END**

FIG. 3

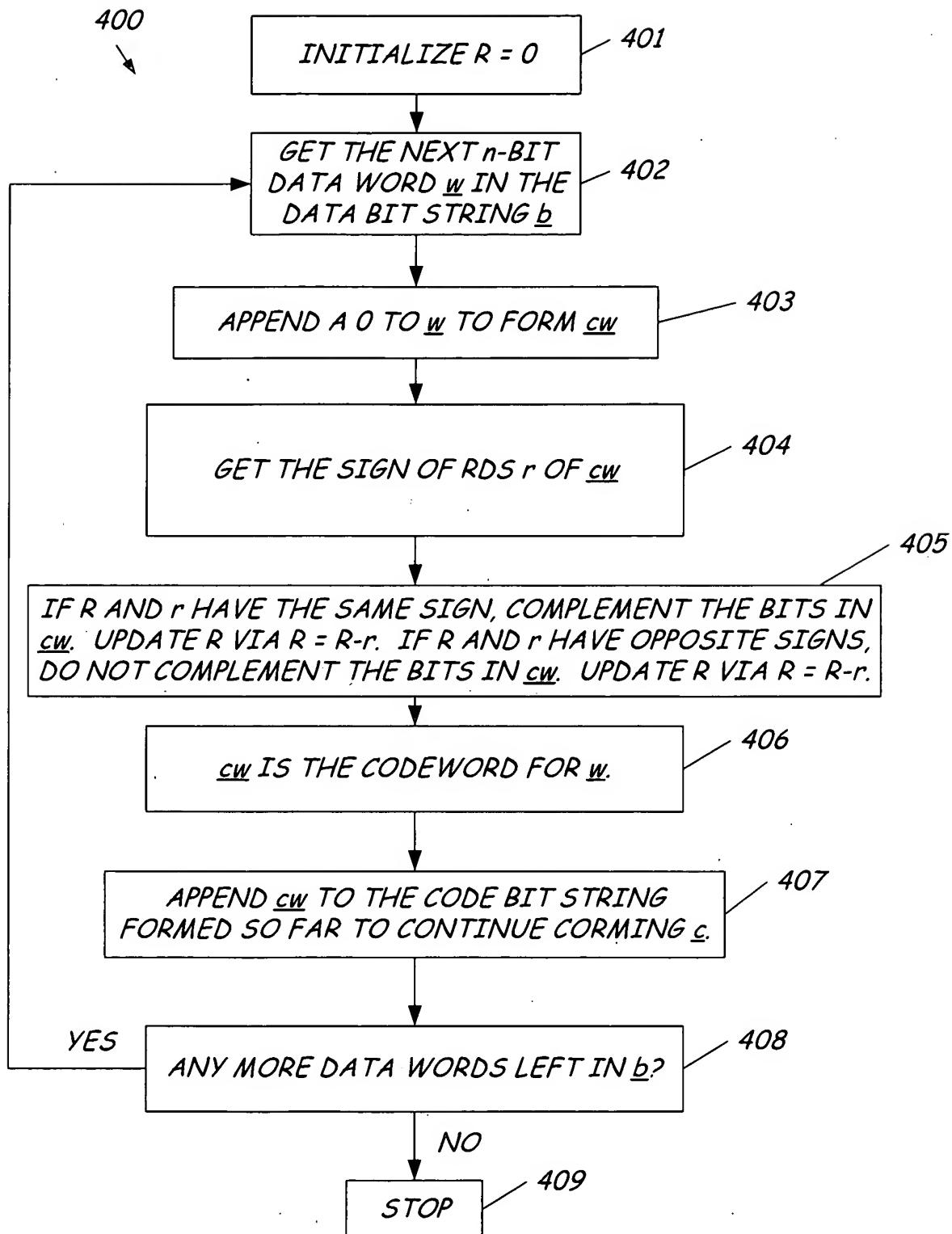


FIG. 4

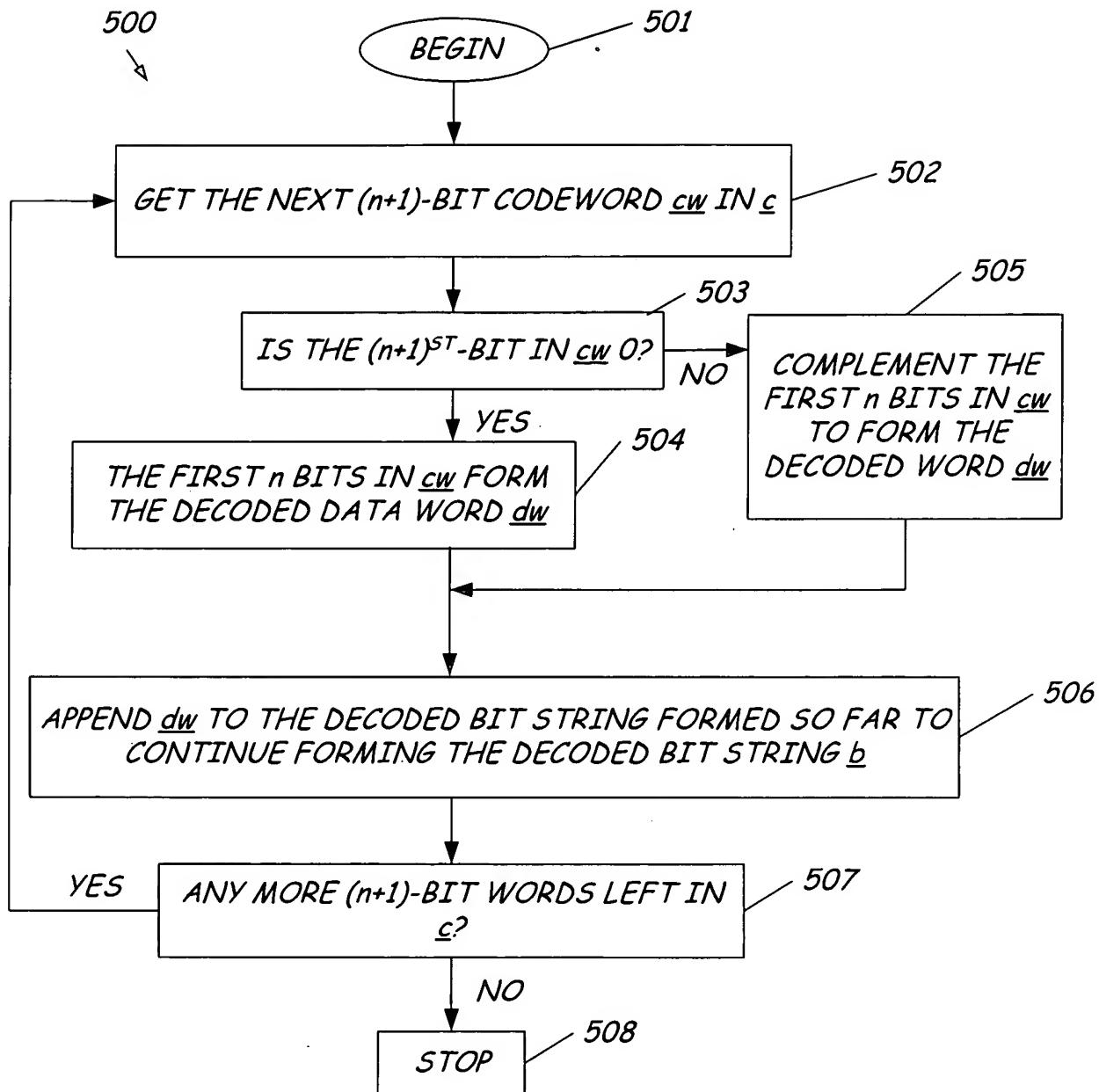


FIG. 5